(1978–1987; n = 755); Group-C (1988–1997; n = 1185); and Group-D (1998–2007; n = 1361)]. Use and dose of RAI has increased from 43.1% in Group-A to 68% in Group-D ($p < 0.001$). There has been a reduction in recurrence rate with higher dose of RAI (17.3% with dose 185–369 MBq (n = 295); 4.1% with >555 MBq (n = 815)) ($p < 0.001$). Surgical intervention rates decreased from 55.3% to 12.3% in Group-A and D respectively ($p < 0.001$).
Conclusion: Analysis of a large dataset of patients with Grave's thyrotoxicosis suggests increasing use of RAI as the preferred first line of treatment. Using a single higher dose of RAI and adoption of total thyroidectomy has decreased the recurrence rates.

0786: RURAL HOSPITAL OUTCOMES VERSUS NON-RURAL HOSPITAL OUTCOMES FOLLOWING EMERGENCY LAPAROTOMY: A SCOTTISH RETROSPECTIVE COHORT STUDY

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Aim: Scotland has six remote and rural hospitals providing a comprehensive surgical service. This study compared outcomes following emergency laparotomy between these rural hospitals and non-rural hospitals in Scotland.
Methods: Data on all emergency laparotomies performed in Scotland from April 2001–March 2011 were identified from the SMR01 database of inpatient admissions. The mortality rate specific to each included operation code was determined, allowing creation of risk quartiles of procedural mortality. Logistic regression was performed using this variable in addition to age, Charlson comorbidity index and a deprivation index.
Results: A cohort of 30,623 cases was identified, with a median age 65 years old. Overall Scottish all-cause post-operative mortality was 11.3% at 30 days. 30-day mortality in the 835 rural hospital cases was 9.2%, versus 11.4% in the 29,726 non-rural hospital cases, $p = 0.052$. However, following risk adjustment, the odds ratio of 30-day mortality in a rural centre was estimated as 0.62 compared to non-rural centres (95% confidence interval 0.48–0.79).
Conclusion: Emergency laparotomy outcomes are superior in Scotland's rural hospitals, compared with non-rural hospitals, when using risk-adjusted administrative data. This suggests that rural hospitals provide a high quality of emergency surgical care, even accepting that their case mix and transfer patterns are different.

0842: PACKING OF PERIANAL ABSCESS CAVITIES (PPAC) STUDY: A MULTI-CENTRE OBSERVATIONAL FEASIBILITY STUDY, INTERIM ANALYSIS

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Aim: 18,0000 acute perianal abscesses occur in England each year. This study investigates current management and outcomes with the aim of demonstrating feasibility for an RCT of packing versus no packing.
Methods: Patients were asked to complete pain score diaries and QoL assessments, in addition to 1, 2, 3, 4, 8 week and 6 month follow up. This interim analysis was undertaken at 11 months.
Results: 142 patients recruited over 10 months (15 centres). Mean age 39 years, 64% female. At operation, 9% had a fistula identified (no fistulotomies) and 97% were packed. Average number dressing changes in 21 days was 7.4. Packing causes double to three-fold increase in pain. Pain intensity halves after a week. At 4 weeks, 48% healed. 8-week fistula rate was 21% and recurrence rate 9% (n = 2) at 6 months. 26 patients withdrew consent or lost to follow-up. The estimated dressing and community nursing costs are £159.84 per patient (£2,877,120 pa in England).
Conclusion: Packing is painful. A trial of packing versus no packing is feasible. If no packing results in reduced pain and has no increased fistula or abscess recurrence rates, there could be considerable cost savings to the NHS and patients.

1014: EARLY GRAFT LOSS FOLLOWING LIVER TRANSPLANTATION: CAUSES AND CONSEQUENCES

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Aim: To determine the incidence, causes and consequences of early graft loss (EGL) following deceased Liver Transplantation (LTx) at our centre. EGL was defined as graft loss occurring due to graft failure within three months of LTx.
Methods: Recipient outcome data was collected for all LTx's performed at the Cambridge Transplant Centre between 01/01/2000 to 01/01/2014 using a prospectively maintained database. Each patient had at least 90 days of follow-up post-operatively.
Results: 989 LTx's were performed in 906 patients during the fourteen year period. EGL occurred 68 times in 61 patients (6.7%). 46 patients were re-transplanted following the first episode of EGL. 6 had recurrent EGL (90 day survival 16.7%) and one had a further third episode. The predominant identifiable causes of EGL were hepatic artery thrombosis (HAT) (28%) and primary non-function (PNF) (26.5%) of the liver grafts.
Conclusion: EGL is a major contributor to morbidity and mortality post-LTx. The causes of EGL include a heterogeneous group of pathologies. Re-transplantation (Re-Tx) following EGL is associated with a favourable patient outcome. Re-Tx following recurrent EGL requires careful consideration of the patient condition and underlying aetiologies of EGL. Our next step is to identify risk factors for EGL in our patient cohort.

Surgical Oncology Trainees' Association Short Paper Session

0180: PATIENTS TREATED WITH ONCOPLASTIC BREAST CONSERVATION REQUIRE MORE POSTOPERATIVE RADIOLOGICAL IMAGING, CONSEQUENT BIOPSY AND OUTPATIENT CLINIC VISIT THAN PATIENTS TREATED WITH SIMPLE WIDE LOCAL EXCISION

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Aim: Oncoplastic breast conservation surgery (OBCS) is a more complex procedure than simple wide local excision (WLE). We compared number of postoperative imaging, biopsies and outpatient visits between the two operations.
Methods: Patients treated with level II OBCS (n = 84) in two breast units between 05/09 and 11/11 were compared to patients who underwent simple WLE (n = 319) between 01/10 and 11/11. Number of imaging modalities, biopsies and outpatient visits within the initial 24 months postoperative period were compared using student's t-test.
Results: OBCS patients required significantly more postoperative ultrasound (0.595 vs. 0.091; $p < 0.0001$), MRI (0.095 vs. 0.015; $p = 0.004$), and breast biopsy (0.44 vs. 0.019; $p < 0.0001$). Abnormal findings on postoperative imaging were more frequent after OBCS (0.143 vs. 0.012; $p < 0.0001$). This required much more clinic visits from patients who were treated with OBCS (4.583 vs. 1.99; $p < 0001$). The total number of postoperative imaging was also higher in patients treated with OBCS (2.25 vs. 2.01; $p = 0.0842$). More mammograms were carried in patients who had WLE (1.61 vs. 1.90; $p = 0.0046$).
Conclusion: More frequent postoperative breast ultrasound, MRI, and more common abnormal radiological findings, and consequent breast biopsies reflect the relative complexity of OBCS. In the future informed consent for OBCS should include this observation.

0191: IMPACT OF ENHANCED RECOVERY PROGRAMME ON PATIENTS UNDERGOING LUNG CANCER SURGERY

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Aim: Enhanced recovery protocols (ERP) consist of a series of evidence-based perioperative strategies which work synergistically to expedite recovery after surgery. We evaluated the impact of the Thoracic Surgery ERP since its official launch in our institution.
Methods: The full ERP was adopted in July 2013. We retrospectively reviewed all patients undergoing lobectomy one year prior to and one year following the introduction of the ERP.

Results: 76 patients underwent lung resection in the year prior to the ERP and 80 patients in the following year. Median age was 72 years (IQR 64-77) and 69 years (IQR 64-75) before and after programme commencement, respectively ($p = 0.120$). The proportion of patients undergoing VATS resection was 55.3% and 66.3% in the consecutive years ($p = 0.160$). LOS for all approaches prior to and following the introduction of ERP was 6 days (IQR 4-8) versus 5 days (IQR 3-8), respectively ($p = 0.126$). The non-significant reduction in LOS was observed in both open and VATS cases. Overall, the reduction in LOS represented a cost reduction of £26880(14%).
Conclusion: The benefits of a thoracic surgery ERP may be difficult to measure in terms of hard end-points due to the staged nature of ERP implementation. A trend towards reduced LOS was observed following the introduction of the thoracic surgery ERP.

0308: A PROGNOSTIC INDICATOR IN RECTAL CANCER SURGERY: LYMPH NODE RATIO IN NEO-ADJUVANT CHEMO-RADIOTHERAPY (CRTX)

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Aim: This study aims to identify which variables -lymph node yield (LNY), LN ratio (LNR) and LN involvement (LNI)- are significant predictors of overall survival (OS) in patients who had neo-adjuvant CRTx for rectal cancer.
Methods: This is a retrospective study of patients who had surgical resection for rectal cancers from January 2006-December 2011 in TTSH (Singapore). LNY, LNI and LNR from histopathology are recorded. Correlation and multiple regression analyses were conducted to examine relationship between OS (≥3-year follow-up) and potential predictors (LNY, LNI, and LNR).
Results: A total of 200 patients were included, of which 80 had neo-adjuvant CRTx. A reduction in mean LNY and LNI were found in the neo-adjuvant group (from 23.4 to 15.0, $p < 0.01$ and 3.45 to 1.86, $p = 0.163$ respectively). There was no reduction in mean LNR (both 0.11). OS is negatively and significantly correlated with LNI ($p = 0.019$) and LNR ($p = 0.011$). The stepwise multiple regression model showed LNR as best predictor of survival ($R2 = 0.072$, $F(1, 71) = 5.495$, $p < 0.05$).
Conclusion: Neo-adjuvant CRTx reduces LNY and LNI but not LNR. LNI and LNR are inversely related to OS. LNR is the single best predictor of prognosis for patients who had neo-adjuvant CRTx for rectal cancer.

0339: A COMPARISON OF TWO DIGITAL MAMMOGRAPHY SYSTEMS AT BREAST TEST WALES – WHAT DOES IT MEAN FOR SURGEONS?

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Aim: The Welsh breast screening service converted to wholly digital technology in 2012. This study aims to compare the performance of the two digital mammography technologies used (Sectra/Philips and Hologic); specifically number, type, size and grade of tumour identified?
Methods: A retrospective study of a prospectively collected database of 50,000 consecutive screening episodes; clients aged 49-88 (mean 61.9). All tumours were defined by type, size, grade and invasive or non invasive (DCIS). Performance was analysed for statistically significant differences.
Results: 500 cancers were found with no statistical difference in invasive cancer detection nor between ductal or lobular subtypes. Hologic detected 267 tumours, 72 (26.97%) were DCIS (2.88 per 1000), compared to Sectra with 233 cancers overall including 36 (15.45%) DCIS (1.44 per 1000). The difference in DCIS detection was significant $p \leq 0.001$ with both showing 53% HNG lesions. There was no significant difference in DCIS size for the two technologies.
Conclusion: Hologic and Sectra/Philips seem comparable in terms of invasive cancer detection, with a statistically significant difference in DCIS detection, not reported in previous studies. IF this difference is clinically significant we may perform unwarranted surgery on many women.

0353: NUTRITIONAL ENHANCED RECOVERY: POST-PYLORIC FEEDING AFTER DISCHARGE FOLLOWING OESOPHAGECTOMY

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Aim: Oesophagectomy is associated with pre- and postoperative nutritional difficulties, including protein-energy malnutrition (defined as >10% weight loss). Postoperative nutritional enhanced recovery (NER) aims to optimise nutrition with early reintroduction of enteral feeding by post-pyloric feeding (nasojejunal tube or surgical jejunostomy) and a period of overnight enteral feeding following discharge.
Methods: To investigate the postoperative weight changes in patients who received NER and those who did not, this retrospective audit reviewed case notes for 214 patients who underwent oesophagectomy between 1st January 2012 and 30th April 2014.
Results: Patients who had post-pyloric feeding continued following discharge ($N = 32$) had significantly less weight loss from discharge until 3-months postoperatively compared to those with no supplementary feeding (−4.6 kg [−5.4%] vs. −12.3 kg [−13.8%], $p < 0.001$). Weight loss in the post-pyloric feeding cohort was shown to increase following cessation of feeding (median duration postoperatively: 82 days [22–181]) however there remained a significant difference at 6-months (−8.05 kg [−10.6%] vs. −13.1 kg [−14.8%], $p = 0.007$) and by 12-months there was no significant difference (−11.3 kg [−14.1%] vs. −11.2 kg [−14.0%], $p = 0.505$).
Conclusion: Oesophagectomy is shown to be associated with substantial postoperative protein-energy malnutrition. Postoperative weight loss and malnutrition can be significantly reduced with post-pyloric feeding following discharge, and this audit supports NER implementation.

0532: PERINEURAL INVASION AND NEUROPATHY IN PANCREATIC CANCER: FROM HUMAN TISSUES TO A CELLULAR MODEL

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Aim: Perineural invasion (PNI) is a common and characteristic feature of pancreatic ductal adenocarcinoma (PDAC). It is associated with poor prognosis, tumour recurrence and generation of pain. The molecular alterations underlying the neuro-epithelial interactions in PNI are poorly understood.
Methods: We performed Mass Spectrometry-based global proteomic profiling of laser microdissected PNI and non-PNI cancer, as well as invaded and non-invaded nerves from PDAC tissues. An in vitro model of PNI was developed using a co-culture system comprising PC12 cells, a rat pheochromocytoma cell line, as the neuronal element and PDAC cells.
Results: The overall proteomic profiles of PNI and non-PNI cancer appeared largely similar. In contrast, nerve samples demonstrated widespread molecular alterations characteristic of neuronal plasticity upon invasion by cancer cells. Immunohistochemistry confirmed the up-regulation of VGF in invaded compared to non-invaded nerves. Using the in vitro co-culture model, PDAC cell lines were able to induce PC12 cells neuronal plasticity including survival, neurite extension as well as VGF expression.
Conclusion: The proteomic data indicates a molecular pattern consistent with neuronal injury and provides potential molecular mechanisms for the widespread neuronal plasticity in PNI. The unique in vitro model recapitulates these changes and provides a versatile tool to investigate their roles.

0623: PATTERNS OF MELANOMA RECURRENCE FOLLOWING A NEGATIVE SENTINEL LYMPH NODE BIOPSY

E. O'Connell[*], P. O'Leary, Z. Khan, K. Fogarty, P. Redmond. *Cork University Hospital, Ireland*

Aim: Sentinel lymph node (SLN) status is a recognised prognostic indicator in melanoma. However, in the setting of a negative SLN there remains a high risk of disease recurrence. We aimed to analyse the predictors and patterns of recurrence in patients with a negative SLN biopsy.
Methods: Review of a prospectively maintained melanoma database. Patients with a negative sentinel lymph node were identified and we performed statistical analysis on their demographics, tumour histology characteristics and follow-up data.
Results: Of 164 patients studied, 40 (23%) had a recurrence of melanoma at a median of 39.5 months following diagnosis (range 1–92 months). Distant